

**NEBRASKA FOOD CODE,
Revised April, 2003**

**4-204.116 Manual Warewashing equipment,
Heaters and Baskets.**

If hot water is used for sanitation in manual warewashing operations, the sanitizing compartment of the sink shall be:

- (A) Designed with an integral heating device that is capable of maintaining water at a temperature not less than 77°C (171°F); and
- (B) Provided with a rack or basket to allow complete immersion of equipment and utensils into the hot water.

4-501.110 Mechanical Warewashing Equipment, Wash Solution Temperature.

(A) The temperature of the wash solution in spray type warewashers that use hot water to sanitize may not be less than:

- (1) For a stationary rack, single temperature machine, 74°C (165°F);
- (2) For a stationary rack, dual temperature machine, 66°C (150°F);
- (3) For a single tank, conveyor, dual temperature machine, 71°C (160°F); or
- (4) For a multi-tank, conveyor, multi-temperature machine, 66°C (150°F).

(B) The temperature of the wash solution in spray-type warewashers that use chemicals to sanitize may not be less than 49°C (120°F).

4-501.111 Manual Warewashing Equipment, Hot Water Sanitation Temperatures.*

If immersion in hot water is used for sanitizing in a manual operation, the temperature of the water shall be maintained at 77° C (171° F) or above.

4-501.112 Mechanical Warewashing Equipment, Hot Water Sanitization Temperatures.

(A) Except as specified in ¶ (B) of this section, in a mechanical operation, the temperature of the fresh hot water sanitizing rinse as it enters the manifold may not be more than 90°C (194°F), or less than:

- (1) For a stationary rack, single temperature machine, 74°C (165°F); or
- (2) For all other machines, 82°C (180°F).

(B) The maximum temperature specified under ¶ (A) of this section, does not apply to the high pressure and temperature systems with wand-type, hand-held, spraying devices used for the in-place cleaning and sanitizing of equipment such as meat saws.

5-103.11 Capacity.*

(A) The water source and system shall be of sufficient capacity to meet the peak water demands of the food establishment.

(B) Hot water generation and distribution systems shall be sufficient to meet the peak hot water demands throughout the food establishment.

Hot Water Requirements

The hot water supply shall be sufficient to satisfy the continuous and peak hot water demands of the establishment. Hot water for handwashing shall be of a temperature of at least 110°F. Hot water for mechanical dishwashing must be 150°F-165°F for washing and 165°F-180°F for sanitizing. The temperature of the wash solution in spray-type warewashers that use chemicals to sanitize may not be less than 120°F. The water temperature for manual hot water sanitization must be at least 171°F. For purposes of sizing the hot water generating capability, assume a supply temperature requirement of 140°F to each fixture and to the mechanical dishwashing machines.

When possible, avoid placing fixtures long distances from the water heater. Piping insulation or point of use heaters may be needed to maintain hot water temperatures.

The following numbers may be used for determining the total per-hour peak demand of general purpose 140°F hot water for new or remodeled food service establishments and retail food establishments.

1. Warewashing Sinks (utensil, pot, glass, and bar sinks).

- a) Measure the length, width, and height of each of the sink's compartments to determine the total volume capacity of the sink(s).
- b) The following formula is used for determining the volume of hot water needed for the sink(s).

$$V = \frac{L \times W \times H \times C \times .5}{231}$$

- V = Volume (in gallons) of hot water needed
- L = Length of one sink's compartment in inches
- W = Width of one of the sink's compartments in inches
- H = Height of one of the sink's compartments in inches
- 231 = The number of cubic inches per gallon
- C = The number of compartments within the sink
- .5 = The percentage of 140°F water used in the sink

c) If all compartment sizes of the sink are not the same, then the calculation must be done for each compartment and the totals are then added to obtain the total gallon per hour of hot water needed.

2. Dishwashing Machines

Hot water rinse or chemical sanitizing *

3. Spray arm over garbage disposal 32 GPH

4. Dishwashing Conveyor Pre-Rinse *

5. Vegetable/Food Preparation Sink 15 GPH

6. Utensil Soak Sink 15 GPH

7. Lavatories 5 GPH

8. Mop Sink 5 GPH

9. Garbage Can Washer 35 GPH

10. Clothes Washer * 9-12 pounds 32 GPH
16 pounds 42 GPH

11. Employee Showers 15 GPH

*See manufacturer's rating in gallons per hour. (GPH)

To determine the total gallon per hour usage for the establishment, add the hot water usage (GPH) for items 1-11.